ABSTRACT OF THE DISCLOSURE

A polyhydroxyalkanoate is disclosed which has in the molecule a unit represented by Chemical Formula (1).

$$\begin{array}{c|c}
 & H_2 & \\
\hline
 & C & C \\
\hline
 & C & C
\end{array}$$

$$\begin{array}{c|c}
 & X = 1-8 \\
 & R
\end{array}$$
(1)

wherein R is arbitrarily selected from a hydrogen atom, a halogen atom, CN, NO_2 , COOR', SO_2R^* , CH_3 , C_2H_5 , C_3H_7 , $C(CH_3)_2H$ and $C(CH_3)_3$; where R' is H, Na, K, CH_3 or C_2H_5 , and R" is OH, ONa, OK, a halogen atom, OCH_3 or OC_2H_5 ; and x is an integer arbitrarily selected from 1 to 8; with the proviso that a polyhydroxyalkanoate is excluded which has a hydrogen atom as R and x in all the units is 2 or 4. Also disclosed is a process for producing the polyhydroxyalkanoate by the use of a microorganism having the ability to produce the polyhydroxyalkanoate and accumulate it in the bacterial body.